

M/019/0005
Tom
incoming

From: "Schowengerdt, Rich" <Richard.Schowengerdt@shawgrp.com>
To: <paulbaker@utah.gov>
Date: 1/24/2011 8:48 AM
Subject: FW: Surety Review - Intrepid Potash
Attachments: Hydraulic Hammer Production Rate.pdf

Paul;

Here is the e-mail we talked about this AM

Shaw Environmental & Infrastructure
Richard Schowengerdt

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From: Schowengerdt, Rich
Sent: Thu 1/20/2011 6:43 PM
To: pbaker@utah.gov
Cc: Glander, Nicholas; rick.york@intrepidpotash.com
Subject: Surety Review - Intrepid Potash

Paul;

In response to your December 9, 2010 letter regarding the Surety Review Intrepid Potash Moab, LLC. Cane Creek Mine, M/019/005, Grand County, Utah; please review the following:

1. Please include a note on the spreadsheets that demolition material will be disposed of on site and that there will be no dumping charges.

The following note shall be added to spreadsheets; "Disposal costs (Disposal Site Tipping Fees) are not included as the demolition materials will be disposed of in an on-site demolition landfill."

2. Please include reference for the concrete disposal costs. The Division understands that many of the concrete demolition costs in Means are for smaller projects (jack hammers) that use equipment that would not be used in a large scale. The reference is needed for a third party to evaluate the bonding cost.

A hydraulic rock breaker mounted to a backhoe has been proposed for concrete demolition. The production rates for the proposed hydraulic concrete breaker are provided in the Attachment Specifications from BTI on page 3-61 (Attached). Using the attached production information, an average production rate of 400 cubic yards (CY) per 8 hour day was used in the estimate. The 400 CY per 8 hour

figure is at the high end of the production range for reinforced concrete however several of the foundations are not composed of reinforced concrete and will yield higher production rates. The rate of 400 CY per 8 hours is thought to be a reasonable average estimate given the presence non-reinforced concrete in some of the structures. The hydraulic hammer specifications have been provided by an associate with Gorilla Hammers; a division of Tech Hydraulics. Gorilla Hammers specialize in heavy demolition tool bits specified an operating cost for an excavator equipped with a hydraulic breaker at \$133.75 per hour. The cost per cubic yard on concrete breaking was calculated as follows:

$$400 \text{ CY} / 8 \text{ Hrs} = 50 \text{ CY} / \text{Hr}$$

$$\$133.75 \text{ per Hr} / 50 \text{ CY per Hr} = \$2.675 \text{ per CY}$$

The following note will be added to the spreadsheets; "Concrete demolition will be preformed using hydraulic breakers attached to excavators yielding production rates of 400 CY / 8 hr shift and a labor / equipment cost factor \$133.75 / hr"

The technical memorandum received with the bond calculations says Intrepid Potash has installed four additional extraction / injection wells and that costs to reclaim the surface disturbance has associated with these areas has been included in the spreadsheets. Are these disturbances included in the Mine Plan? If not, please submit an amendment with updated maps and text.

The Mine plan on file shows 6 extraction / injection wells to be installed (See Figure 106.3 in the Mine Plan). All six wells have been installed since 2004. Two new wells were installed in areas of other, existing surface disturbance. The other four wells were installed in areas resulting in new disturbance and have been accounted for in the reclamation estimates. Figure 106.3 will be up-dated and re-submitted showing the six locations and the "installed" rather than "proposed" wells.

We have completed the revisions to Exhibit 106.3 and will add the notes proposed above, if you concur, to the spreadsheets and re-submit all to you next week.

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TB1680XC Hydraulic Breaker

OPERATING SPECIFICATIONS

Energy Class: 7500 ft/lbs
10170 Joules

Blows/Minute: 455 - 580

Oil Flow Req'd: 55-67 gal/min
208-255 l/min

Working Pressure:
2030-2755 psi
140-190 bar

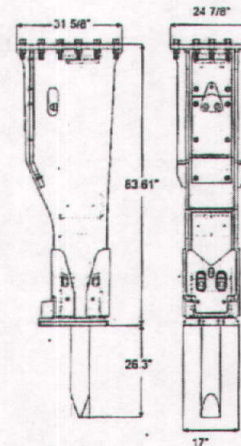
Weight: 5776 lb, 2620 kg

Line Size: 1 1/4"

Tool Diameter: 5.75 in, 146 mm

Tool Weight: 350 lbs, 159 kg

Carrier Weight: 55000 - 106000 lb
25000 - 48000 kg



OPTIONS & ACCESSORIES

Chisel Tool
Moll Tool
Blunt Tool
Chisel Paste
Nitrogen Charging Kit
Accessory Tool Box
Hydraulic Kits
Auto Lubrication K/its
Extra long tool lengths available upon request.
Note: 4 bushings must accompany each installation.
Consult Factory for Mounting Requirements

FEATURES & BENEFITS

Narrow Front Head: Allows for trenching in confined spaces. The narrow profile allows more visibility and better access when working in tight quarters.

Light Weight: Light weight, while providing exceptional structural integrity and impact energy.

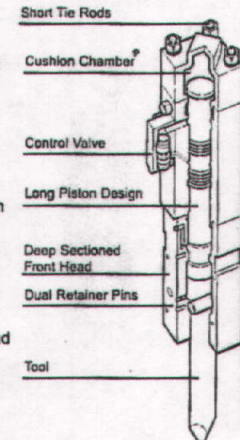
Suspended Boxed Housing Design: Reduces noise and vibration to the carrier.

Compressed Polyurethane Isolators: Compressed Polyurethane Isolators suspend the breaker body on all sides, absorbing and protecting the carrier boom from recoil energy. This feature provides the unique benefit of preventing tie rod strain during blank firing.

Abrasion Resistant Plating: Abrasion Resistant Plating surrounds the nose of the breaker, contributing to long life.

Front Head Support: Front Head Support allows minimal movement, leaving cylinder and gas head free without stressing the tie rods.

Simple Design: Only two moving parts; piston and control valve. This makes our breakers more reliable and less expensive to repair.



**BREAKERS
BREAKERS**

PRODUCTION

cu.yd./8 hour day (cu. M. per 8 hour day)

Concrete Non-reinforced:	600 - 800 cu yd	(459 - 612 cu M)
Concrete Reinforced:	250 - 400 cu yd	(191 - 306 cu M)
Medium Rock:	300 - 500 cu yd	(229 - 382 cu M)
Hard Rock:	275 - 425 cu yd	(210 - 325 cu M)

(Values will vary depending on machine, operator, and job conditions)

The TB1680XC is an excellent breaker for trenching, breaking oversize material and large demolition work. In a trenching applications, the production rate will be approximately half of the rate in oversize rock.

